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HARRISBURG TRI-COUNTY HEALTH MANPOWER SURVEY REPORT. PRELIMINARY.

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THE HARRISBURG AREA COMMUNITY COLLEGE COOPERATED WITH TWO HOSPITALS IN A SURVEY OF THE AREA'S NEEDS FOR HEALTH TECHNICIANS. DATA, COLLECTED BY QUESTIONNAIRE SURVEYS OF DOCTORS AND DENTISTS AND BY INTERVIEWS WITH ADMINISTRATORS OF HOSPITALS, NURSING HOMES AND PROFESSIONAL ORGANIZATIONS, INDICATED THAT (1) A 60-PERCENT INCREASE IN HEALTH MNAPOWER WAS NEEDED OVER A 9-YEAR PERIOD, (2) ABILITY TO TRAIN PERSONNEL HAD NOT KEPT UP WITH GROWTH OF SERVICE FACILITIES AND BED CAPACITY, (3) HIGH SCHOOL GRADUATES TENDED TOWARD THE COLLEGE SETTING FOR POST-SECONDARY TECHNICAL AND OCCUPATIONAL EDUCATION, AND FEW PENNSYLVANIA COLLEGES WERE OFFERING HEALTH TECHNOLOGY PROGRAMS, (4) LOW SALARIES WERE A DETERRENT TO RECRUITMENT, AS WAS THE LIMITED CAREER MOBILITY IN SUCH FIELDS. QUESTIONS OF APPROPRIATE USE OF AVAILABLE PERSONNEL AROSE DURING THE STUDY. IT WAS CONCLUDED THAT EDUCATION OF HEALTH TECHNICIANS COULD BEST BE ACCOMPLISHED BY THE COMMUNITY COLLEGE, WHICH WOULD BE IN A POSITION TO COORDINATE CLINICAL FACILITIES, CURRICULUM DEVELOPMENT, AND RECRUITMENT AND PLACEMENT OF TRAINEES, (WO)

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HARRISBURG TRI-COUNTY HEALTH MANPOWER

SURVEY REPORT

PRELIMINARY

April, 1966 - July, 1966

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PREFACE

Early in the Spring of 1966, administrative representatives from the major hospitals and the Harrisburg Area Community College met to discuss the current health manpower status in the region comprising Dauphin, Cumberland, and Perry Counties. That meeting resulted in a consensus that critical shortages do exist in a wide range of health service specialties. A suggestion was made that continued discussions on measures to ameliorate those shortages should await the findings of a systematic tri-county study of existing health manpower requirements and resources.

Such a study was jointly approved and funded by the Harrisburg Hospital, the Harrisburg Polyclinic Hospital, and the Harrisburg Area Community College.

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Introduction

One of this country's most critical domestic concerns is the problem of meeting personnel needs for the burgeoning health service industry. Considerable attention has been focused on how, where, and how many health service personnel are to be educated and trained. Had this not been a dilemma in the recent past, it will have certainly become one as the historic Medicare bill goes into effect. While it is not known precisely what impact Medicare will ultimately have on the health service establishment, it has been predicted that it will contribute significantly to the need for at least one million additional health service workers by 1975. This represents a 35% increase of health service workers in the total U. S. labor force. Because the task of meeting this goal will be formidable indeed, the nation must mobilize and use a vast array of resources and talent. Failure to do so can seriously jeopardize the quality and quantity of medical and health care services the public has a right to expect.

The Federal Government, through a number of legislative acts, has provided support for a wide variety of activities relating to the health endeavor. Such support can be effective only if local initiative is exercised to determine and identify specific community needs. The ensuing report is the result of the kind of preliminary community action which will be required if sound programs to educate and train health personnel are to be designed and established.

Focus of the Study

The Bureau of the Census reports employment figures in two major classifications of the health services industry. The first of these includes all personnel engaged in delivering services relating to and supportive of the health establishment. In 1960, over 2,500,000 persons were employed in health services.[1] In 1965, this figure is estimated to have risen to almost 3,000,000 or 4.5% of the total labor force in the United States. Of this number, approximately one-fourth work in positions not usually classified as "health occupations." These are laundry, housekeeping, maintenance, general clerical, and many dietary department personnel. Their skills and knowledges are not unique to the health field.

The second classification--health occupations--refers to those personnel who possess knowledges and skills which are unique to the health establishment. Such persons are required to spend anywhere from one to twelve years to prepare for careers in health. Licensed practical nurses, dental assistants, x-ray technicians, medical technologists, professional nurses, pharmacists, physicians, and dentists are characteristic of this group.

The Health Careers Guidebook, published by the United States Department of Labor in December of 1965, identifies and describes about 200 health career opportunities which are grouped within thirty-two general categories. As the fund of medical knowledge and technology

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[1]U. S. Bureau of the Census, U. S. Census of Population: 1960, Vol. 1, Characteristics of the Population, U. S. Government Printing Office, Washington, D. C., 1964.

increased, it created a demand for whole classes of new technicians. Many of the 200 careers listed in the Guidebook did not exist before World War II. Indeed, there are some developing careers, such as in biomedical engineering technology and medical emergency technology, which are not even listed in the guidebook. By far the greatest increase among the occupational categories is in those areas requiring relatively short-term study (one, two, and three years). Although the present study includes data on all health service workers, the major portion of this report will be devoted to problems and shortages from among the occupational categories requiring one to three years of education and training (beyond high school). Personnel in these categories are increasingly referred to as "health technicians."

Survey Procedures

The report which follows is a general summary of data and opinions gathered through interviews, mailed questionnaires, and survey of pertinent and recent literature.

A. Interviews were held with administrative representatives of the major hospitals and nursing homes in the tri-county area; and with directors, executive secretaries, and representatives of professional associations and organizations. The hospitals were:

Harrisburg Polyclinic Hospital
Harrisburg Hospital
Holy Spirit Hospital
Community General Osteopathic Hospital
Harrisburg State Hospital
Hershey Hospital
Miller Oral Surgery Hospital
D. W. Seidel Hospital

These hospitals contain over 92% of the bed capacity for the area.

The nursing homes visited were:

Dauphin County Home and Hospital
Blue Ridge Haven
Nightingale Convalescent and Rest Home
Homeland
Odd Fellows Home of Pennsylvania (Eastern District)
Leader Nursing Home

Although these nursing homes contained only 66% of the total bed capacity, the unsurveyed nursing homes, by virtue of their O.P.A. classifications, do not require specially trained health technicians in significant numbers. Fewer than 9% of employees in the unsurveyed nursing homes could be classified as "health technicians." (Information and data obtained from these interviews will be found on pages 7-9, Tables A and B.)

Among the professional organizations contacted were:

Pennsylvania State Nurses Association
Pennsylvania State Dental Association
Dauphin County Medical Society
Pennsylvania Osteopathic Association
Pennsylvania State Health Council
Pennsylvania Hospital Association
Harrisburg Chamber of Commerce

(Information from these interviews will be found on page 10, Table C.)

B. Questionnaires were mailed to 319 medical and osteopathic physicians, and to 206 dentists within the tri-county area. The rates of returned questionnaires were 39% from physicians and 38% from dentists. The questionnaires requested information on:

1. Personnel

   Number
   Full- or part-time employment
   Average weekly salary
   Current additional employment needs

2. Skills and Responsibilities of Presently Employed Personnel*

   Technical
   Laboratory
   Office

3. Personnel Turnover Rates

4. Personal Opinions on the Health Manpower Situation

(See page 11, Table D.)

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*In the writing of this report, it was determined that this data was not pertinent to the present report.

C. The Tri-county area's current health technician formal training programs are listed below.

1. Harrisburg Hospital's programs for:

   Nursing
   Radiologic Technology
   Laboratory Assistants
   Medical Technology
   Nursing Anesthesia

2. Harrisburg Polyclinic Hospital School of Nursing

3. Holy Spirit Hospital programs for:

   Licensed Practical Nurse
   Radiologic Technology
   Certified Laboratory Assistants

4. Harrisburg Institute of Medical Arts

   Program for Medical Assisting

5. Harrisburg Public School Program

   Licensed Practical Nursing

6. Central Pennsylvania Business School
   Medical Secretarial Division

   Program primarily for training Medical Secretaries and Medical Assistants

7. Thompson Institute

   Secretarial program in business, commerce and medicine

TABLE A

SUMMARY DATA

Interviews: Hospitals and Nursing Homes

Although the interviews were basically informal, the format in the left column was used as a guide for discussions. In the right column are responses most frequently heard.

Major Areas of Discussion	Findings
Expansion Plans	Majority of institutions had already undergone some expansion of facilities (new wings, additional rooms); all were involved in future planning.
Health Needs	A primary need in all institutions--Registered Nurses and trained nursing aides. Trained Licensed Practical Nurses particularly needed in Nursing Homes. Hospitals in particular, cited a need for: supervisory personnel administrative assistants medical secretaries - trained medical records personnel Technical personnel--certified or registered, in laboratory and X-ray, in all institutions. Therapists--physical, speech, recreational auxiliary personnel in all areas, including Dentistry; need for Dental Hygienists and Assistants.
Major Problems Affecting Personnel Needs	Shortage of personnel in almost all instances was related to salary. A definite need to raise minimum wage in many areas.
Existing in-service Training Programs	(The content of the following types of programs were not given.) Some hospitals reported instructional programs, specific in nature, of short duration, given by staff physicians. On-the-job training predominated in many of the ancillary categories.

TABLE A
(continued)

Major Areas of Discussion	Findings
	State and county programs of short duration with limited enrollment. Medical-secretarial schools provided some personnel.
New Training Programs Needed	In identifying programs for training in the health services, the general concensus of most institutions was that these programs could best be undertaken by the two-year community college. (Many discussants indicated willingness to participate in community college programs.) Programs: 1. Nursing (on all levels)--Registered Nurses, aides, Licensed Practical Nurses, etc. Also short term retraining programs in this area, especially for supervisors. 2. Hospital management and administration of hospitals and nursing homes. 3. Computer training programs to facilitate payroll and accounting. 4. Medical-Secretarial. 5. Medical-Records. 6. Therapy (occupational, speech, recreational, physical). 7. X-ray and medical laboratory technicians. In addition to technical programs, emphasis was placed on the need for courses in humanities, specifically human relations, to enhance the technical qualifications.

TABLE B

SUMMARY DATA

Hospitals and Nursing Homes Surveyed

Category	Hospitals	Nursing Homes
Bed Capacity (total)	3906	1021
Bassinets	174	--
Personnel (professional)		
Nursing	1736	333
Technical (Lab., X-ray)	248	8
Medical Records	70	--
Secretarial	25	--
Therapists (Physical & Occupational)	44	10
Anesthetists	54	4
Social Service	13	--
Total	2190	355
Personnel (non-professional)		
Dietary	352	44
Other*	367	71
(*housekeeping maintenance laundry)		
Total	719	115
*Salary Range (per month)		
Nursing: R.N.	$330 - 450	
L.P.N.	225 - 325	
Aides	189 - 270	
Anesthetists (R.N.)	387 - 725	
Technician: Laboratory	300 - 525	
X-ray	310 - 500	
Therapists	442 - 815	
Medical records	216 - 350	
Secretarial	207 - 504	
Dietary	270 - 387	

*These figures represent minimums and maximums for many of the hospitals and nursing homes. The ranges reported are considerably larger than any one agency is likely to have.

TABLE C

Summary of Opinions Obtained in Interviews
with
Representatives from Professional Organizations

The basic issues discussed during these interviews were:

a) Personnel needs
b) The role of the Community College as a potential training institution.

Personnel Needs

Major need in Nursing personnel at all levels--Registered Nurses, Licensed Practical Nurses, Nurses aides.

Technicians: Medical laboratory and X-ray.

Therapists: Physical and Occupational.

Dental Hygienists and Dental Assistants.

Instructional personnel in Nursing and Technician areas.

Role of Community College

This institution can play a major role in training professional and technical personnel.

Training in the area of Business Administration and the humanities.

Community College may replace hospital schools.

Community College could easily offer programs in Dental Hygiene and Dental Assisting.

TABLE D

SUMMARY DATA
from
Questionnaires Submitted to
Medical and Osteopathic Physicians and Dentists

Categories	Physicians Medical & Osteopathic	Dentists
Personnel		
Nursing	80	2
Technical		
Laboratory	14	1
X-ray	88	--
Dental Hygienist	--	15
Assisting		
Medical	70	--
Dental	--	60
Secretarial	106	27
Anesthetist (Registered Nurse)	--	5
Total	358	115
Employment (all personnel)		
Full time	333	80
Part time	25	35
Salary Range (per month)*		
Nursing	$238 - 675	--
Dental Hygienist	--	$337 - 585
Medical Assistant	225 - 450	--
Dental Assistant	--	180 - 562
Secretarial	202 - 585	225 - 450
(*includes part time and full time employment)		
Personnel Turnover Rate (in per cent)		
Frequent (6-18 mos)	3	6
Moderate (18 mos-3 yrs)	27	40
Infrequent (3 yrs or more)	70	54

Implications of Data

Economically, demographically, and socially, the Harrisburg Tri-County Area may be viewed as a microcosm of the nation as a whole. The percentage of health service workers in the total United States labor force is about 4.5%. The tri-county area's health service labor force is about 3.5%.* This represents a tri-county deficiency of about 25%. The implications of this in terms of the country's need for one million additional health manpower by 1975, is that the tri-county area has before it a staggering task. It must not only make up a 25% deficiency, but also must maintain a 35% increase in health manpower just to keep up with the national trend. By 1975, the tri-county area must increase its health manpower force by 60%!

One may well ask, "What are the reasons for the area's current deficiency in health manpower, and what can the area do to relieve it?"

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*Employment statistics for the unsurveyed hospitals and nursing homes, and for physicians and dentists who did not return the questionnaires were inferred from the actual data gathered during the study. The lack of standardization in reporting part-time and full-time equivalents, an unknown overlap of work practices among part-time personnel, and variations in classifying occupational titles according to functions and responsibilities constituted variables which necessitated adjustments in the final data.

A Partial Analysis of the Area's Health Manpower Deficiency

In a society as complex as ours, no one factor can adequately explain the source of difficulty. The "reasons" for manpower problems are multiple, and in most cases, compound each other by virtue of their inter-relatedness. For example:

1. In recent years, the tri-county area has increased its service facilities and total bed capacity. Current expansion plans for several hospitals and nursing homes will add 500 more beds. However, the area's capacity to train health technicians has remained relatively stable, and there are no concrete plans to appreciably expand training facilities.
2. Most of the area's health technician programs are located in and sponsored by two major hospitals. While facilities and potential clinical practice fields are increasing in the "non-teaching" hospitals, the teaching agencies cannot increase the sizes or numbers of health technician programs beyond their own capabilities to provide adequate clinical experiences for their enrolled students. One of the area's few x-ray technology programs is a case in point: no more than four students per year are admitted to the program. Such a program requires a low student-instructor ratio, plus a very active service to ensure adequate clinical experiences for each student. X-ray technology is one of the health fields which is currently experiencing, and is anticipating more acute shortages.

3. Paradoxically, despite the limited number of student places in existing programs, some programs frequently "go begging" for students. This may be explained, in part, by the high rate of out-of-state migration among people in the 18-44 year age group.[1] This rate is particularly high among the 18-21 year olds--a potentially good group for career training.
4. High school students increasingly tend to prefer the college setting for post-secondary technical and occupational education. Consequently, they tend to select career opportunities from programs available to them in the colleges. Although there are many junior and four year colleges in Pennsylvania, very few offer health technology programs.
5. One of the more serious deterrents to attracting young people into the health fields--particularly young men--is the generally low salary scales. This factor alone spawns a host of problems for the entire health endeavor. Since other industries can compete quite successfully for personnel, not only are the new sources of manpower lost to the health services industry--a large number of already trained and qualified health technicians are inexorably drawn away.
6. A somewhat less obvious, but nonetheless pertinent, factor may be limited career mobility within the health disciplines. A young person who is uncertain of his professional goal

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[1]Ralph R. Fields, et. al., Community Colleges in Pennsylvania: A Report to the State Board of Education, June 30, 1965, p. 32.

would hesitate to select a career which requires a number of years of preparation but for which he accrues little or no academic credit. Should this person aspire to a higher professional status, or to a different but related specialty, he frequently must begin his education all over again. This "locked step" quality is less characteristic in the engineering and education professions.

The aforementioned are just some of the factors contributing to the tri-county area's health manpower deficit. They are not, by any means, the only reasons, nor are they exclusive to the tri-county area.

One of the more difficult problems, and an area of major concern in the health occupations, is that of appropriate utilization of existing personnel. Are more dentists actually needed, or would it be possible, instead, to increase the productivity of present numbers by preparing well-qualified dental auxiliaries? Auxiliary personnel could perform routine and non-professional tasks; e.g., preparing instrument trays for specific procedures, cleaning and sterilizing instruments, maintaining records and appointment calendars, performing simple laboratory procedures, etc. The dentist would thus be free to engage in clinical activities for which his advanced professional education had prepared him. Indeed, it has been advanced that "If all of the nation's 100,000 dentists knew how to use chairside assistants, and if there were 300,000 such

assistants, the nation's dental needs could be met."[1]

It does not suffice, therefore, to say we need more health personnel when we do not know if they are functioning in capacities commensurate with their education and technical training. This issue suggests its own solution--a comprehensive job analysis in each technical area, particularly those which are experiencing severe or chronic shortages.

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[1]State University of New York at Buffalo, "A Proposal for the Establishment of a School of Health Related Professions," June, 1965 (mimeographed).

Recommendations

As it is true that no one factor can be cited as the prime cause for the manpower deficit, it is equally true that no one panacea can be the ultimate cure. Because the range of health services is broad and varied, and manpower needs differ for various types of health agencies (i.e., general hospitals, nursing homes, institutions for the mentally ill, private practitioners, etc.), several suggested measures to relieve shortages may be undertaken concurrently.

The tri-county area has a two-fold task: 1) make up a 25% deficit in trained health manpower; and 2) increase the supply of trained personnel by an additional 35% to meet anticipated needs by 1975. It has been noted that there are no plans to greatly expand and increase existing area health technology programs. Thus, other educational resources must be sought to augment present facilities and programs. One such resource is the two-year comprehensive public community college--a general description of which is as follows:

> The comprehensive community college reflects the pattern of the comprehensive secondary school and, in some instances, is simply an upward extension of secondary education into the thirteenth and fourteenth years. Its avowed purposes include providing all the post-high school educational services--from cultural activities of general community interest to college-transfer programs. Its students come from all age groups and socioeconomic backgrounds and bring with them an infinite variety of abilities, motivations, and attitudes. The community college, then, is the medium through which the educational services which society must have can be extended to all. Its programs must reflect the needs of the local community as well as the more generalized and shifting needs of a technological and scientific society. By its very breadth and lack of

> selectivity, it can provide educational services beyond the high school for all those who want to take advantage of such opportunities.[1]

The Harrisburg tri-county area is fortunate to have such an institution within its confines--the Harrisburg Area Community College. Its presence is perhaps the area's greatest single asset for not only meeting present health manpower needs, but for providing opportunity for a continuous supply of qualified personnel. Several characteristics make the community college particularly suitable for the education of health technicians. The more pertinent of these are:

1. The institution's administration, faculty, staff, financial structure, plant and buildings, curriculum, et. al., are completely and totally designed and prepared to deliver the one commodity its consumers seek--an education.
2. Educationally, there must be a merging of special and general education in a student's experiences to prepare him to meet his responsibilities in today's challenging society. The Community College through its programs in the humanities, social, and natural sciences, has the advantage over specialized institutions (e.g., hospitals), in that it provides the educational atmosphere and broad associations which tend to expand the world of the student. The humanities and human relations, which have often been cited as needs for health technicians, are already an integral part of the college curriculum.

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[1] C. Blocker, R. Plummer, and R. C. Richardson, Jr., The Two Year College: A Social Synthesis, Prentice-Hall, Englewood Cliffs, New Jersey, 1965, p. 41.

3. The community college has already demonstrated its ability to offer quality programs in a number of health technologies. One notable example is the almost 200 programs in associate degree nursing.
4. With its complex of laboratory, library, and classroom facilities, the community college is in a position to accommodate larger numbers of students in a variety of programs. Moreover, the college has a permanent qualified faculty who, by virtue of being prepared in many disciplines, can be utilized more efficiently, and economically.
5. For the student, the community college offers the unique advantages of:

   a) career flexibility--exposure to a broad spectrum of career opportunities enables the student to select the one which suits him while he gains the necessary orientation and scientific base upon which to build.

   b) guidance--the presence of a well-staffed and qualified guidance department offers the student continuing opportunities for personal, career, and academic evaluation.

The centering of technical curricula in an educational facility offers a number of other advantages. One of these is, the entire community's clinical resources would be available as "extended campuses" to the community college. In an earlier section of this report, it was pointed out that most of the health technology programs for the tri-county area are centered in two major hospitals. The sizes and numbers of those programs are, therefore, limited by

the clinical practice opportunities in those institutions. The presence or lack of appropriate and adequate clinical facilities is one of the most important criteria which would determine if a community college can undertake a particular health occupation curriculum.

Increasing and expanding the clinical practice fields would permit a larger enrollment of students in the various technical programs.

Some of the hospital-based programs could not employ full-time instructors for some of their programs because student enrollment is limited. Consequently, such "instructors" may double as service personnel, or conversely, service personnel may be asked to serve as "instructors" when necessary. Because of its potentially larger student enrollment, it becomes economically feasible for the college to employ a full-time faculty specifically for the health technologies. It thus relieves the individual hospitals of having to recruit and retain hard-to-come-by qualified instructors.

Perhaps the most significant contribution to be made by the community college is one which is just being developed in other occupational fields, and which is in the process of development for the health technologies. It is the "core curriculum." The embodiment of knowledges, skills, and understandings common to a broad spectrum of health services into a core curriculum could serve as a basic foundation to further specialization in particular health occupations.

> In the field of business administration, for example, many institutions require all students to take a common program of studies in accounting, finance, management,

> and marketing, supplemented, of course, by basic instruction in the field of economics. This requirement in general education outside the field of business provides the general body of fact and theory that the successful businessman will need, regardless of his ultimate choice of a specialized occupation.[1]

A common core curriculum for the health technologies could be human anatomy and physiology, psychology, sociology, chemistry, and physics.

This kind of development further enhances the logic of centering health technology education in the community college.

Notwithstanding the above, it is important to note that there are more than 700 community and junior colleges in the United States today, and many more are planned. With full time enrollments ranging from an average of 600, to over 4,000 in some colleges, it is difficult to ignore the potential of these institutions in the education of health technicians through well-planned degree programs.

In addition to degree programs, comprehensive community colleges can offer a variety of short-term non-degree programs as part of its contribution to higher education and its commitment to provide educational opportunities for adults as well as youth. Some kinds of programs which could be sponsored by the college through its evening and extension division are:

1. Refresher courses for health personnel who have been away from the field for a period of time. Many nurses who have interrupted their careers to marry and raise families would

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[1]Samuel Baskin, editor, Higher Education: Some Newer Developments, McGraw-Hill Book Company, New York, 1965, p. 44.

welcome an opportunity to renew their skills and to become acquainted with new knowledge and techniques before they re-enter the labor market. The same is true of medical laboratory technicians, x-ray technicians, and others.

2. Workshop programs for presently employed health personnel on such topics as supervision, interpersonal relations, hospital management, etc.
3. Institutes or seminars in such topics as instrumentation for the health field; new concepts and techniques in medical services; implication, implementation, and scope of new legislation relating to medical care and services, etc.
4. One-year programs: some colleges have eliminated the general education portions of a typical degree program and given one-year training programs in certain areas, e.g., medical secretarial, medical assisting, dental assisting, laboratory assisting, and practical nursing.

In short, because of its location, commitment, and resources, the community college is in an admirable position to serve as one of the major coordinating agencies to increase the quantity and quality of health technicians.

The community college represents a prime resource for alleviating the tri-county health manpower difficulties. There are, however, a number of other actions which could be undertaken by existing health establishments to remedy some of the personnel problems. Among these are:

1. Sharing of qualified instructional personnel among all clinical facilities engaged in providing in-service education. This

would tend to standardize quality of instruction, and to a large degree, ultimately, the quality of services rendered.

2. Standardizing, as much as possible, salary scales for the various classes of health personnel. While hospital and nursing home personnel turnover rates were not determined, a problem existed in this area. Workers generally "switched" jobs for "better" salaries. This problem could be remedied in large measure by equalizing salary scales in similar occupational classes.

3. Conducting a comprehensive job analysis in the health technologies in order to:

   a) standardize personnel functions and responsibilities in similar types of health services.

   b) arrive at more efficient use of health manpower.

4. Establishing a central unit for the tri-county area which would function as a type of "employment" agency exclusively for health service personnel. (This suggestion appeared on several physicians' returned questionnaires.) Such a unit might also coordinate health technology recruitment programs among the high schools.

Conclusion

The health service industry is presently the third largest industry in the country. At its present rate of growth, it may become the second or even the first largest industry. Training and use of personnel almost certainly must be undertaken as a cooperative, coordinated effort among all agencies and practitioners. The Harrisburg tri-county area has made such an effort by supporting the health manpower survey discussed in this report. It is, however, only a bare beginning. The talent and resources to continue what has been started are available. They must be deployed wisely and expeditiously.

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Survey Director
July 28, 1966

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*Speeches prepared for Joint Departments of Health, Education and Welfare and Labor Conference on Job Development in the Health Services, February 15, 1966, Washington, D. C.